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. TO E.

<120> A Method for Accelerating the Rate of Mucociliary Clearance

<130> 98,736

<140> 09/218,913

<141> 1998-12-22

<160> 71

<170> Microsoft Word 97

<210> 1

<211> 179

<212> PRT

<213> Homo sapien

<400> 1

Ala Asp Arg Glu Arg Ser Ile His Asp/Phe Cys Leu Val Ser Lys Val 1 5 15

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr 20 25 30

Asp Gly Ser Cys Gln Leu Phe Val/Tyr Gly Gly Cys Asp Gly Asn Ser 35 40/ 45

Asn Asn Tyr Leu Thr Lys Glu Gyu Cys Leu Lys Lys Cys Ala Thr Val
50 60

Thr Glu Asn Ala Thr Gly Asp/Leu Ala Thr Ser Arg Asn Ala Ala Asp
65 70 75 80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser 85 90 95

Ser Asp Met Phe Asn Tyr/Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr 100 105 110

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
115 120 125

Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn 130 140

Ser Tyr Arg Ser Glv Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln 145 150 155 160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
165 170 175

Ala Val Ser

<210> 2 <211> 197 <212> PRT <213> Homo sapien <220> <221> sig_peptide <222> 1..18 <400> 2 Ala Gly Ser Phe Leu Ala Trp Leu Gly Ser Leu Leu Leu Ser Gly Val 10 Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp 105 His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Leu 180 185 Ala Gly Ala Val Ser 195 <210> 3 <211> 153 <212> PRT <213> Homo sapien Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys

Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly

55

Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala 70 Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser 105 Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu 135 Ala Cys Met Leu Arg Cys Phe Arg Gln <210> 4 <211> 58 <212> PRT <213> Homo sapien <400> 4 Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val <210> 5 <211> 51 <212> PRT <213> Homo sapien <400> 5 Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg 1 5 10 15 Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys 50 <210> 6 <211> 58 <212> PRT <213> Homo sapien <400> 6 Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala 10

Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn 20 25 30 Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu 40 Glu Ala Cys Met Leu Arg Cys Phe Arg Gln <210> 7 <211> 51 <212> PRT <213> Homo sapien Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys 50 <210> 8 <211> 92 <212> PRT <213> Homo sapien <400> 8 Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val 15 Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser 40 Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser

<212> DNA <213> Homo sapien <220> <221> misc_feature <222> 679..708 <223> /note= "n at positions 622, 679, 707 is any nucleic acid" <400> 9

<210> 9 <211> 708

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ctccatgcct aggtggtggt acaatgtcac tgacggatcc tgccagctgt ttgtgtatgg
                                                                       180
gggctgtgac ggaaacagca ataattacct gaccaaggag gagtgcctca agaaatgtgc
                                                                      240
                                                                      300
cactgtcaca gagaatgcca cgggtgacct ggccaccagc aggaatgcag cggattcctc
tgtcccaagt gctcccagaa ggcaggattc tgaagaccac tccagcgata tgttcaacta
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tgaagaatac tgcaccgcca acgcaqtcac tgggccttgc cgtgcatcct tcccacgctg
                                                                      420
                                                                      480
gtactttgac gtggagagga actcctgcaa taacttcatc tatggaggct gccggggcaa
                                                                      540
taagaacagc taccgctctg aggaggcctg catgctccgc tgcttccgcc agcaggagaa
tcctccctg cccttggct caaaggtggt ggttctggcc ggggctgttt cgtgatggtg
                                                                       600
ttgatccttt tcctggggag cntccatggt cttactgatt ccgggtggca aggaggaacc
                                                                      660
                                                                      708
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<211> 235
<212> PRT
<213> Homo sapien
<220>
<221> peptide
<222> 1..235
<223> /note= "Xaa at positions 201, 226, and 233 are nonsence or stop codons"
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Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser
Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn
Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly
Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala
Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala
Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp
His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala
Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val
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Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn

Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Leu 180 185 190

Ala Gly Ala Val Ser Xaa Trp Cys Xaa Ser Phe Ser Trp Gly Ala Ser 195 200 205

Met Val Leu Leu Ile Pro Gly Gly Lys Glu Glu Pro Gly Ala Cys Pro 210 215 220

Ala Xaa Arg Leu Glu Leu Arg Arg Xaa Gln Gly 225 230 235

<210> 11

<211> 179

<212> PRT

<213> Homo sapien

<220>

<221> peptide

<222> 1..170

<223> /note= "Xaa at positions 8, 17, 19, 21-26, 40, 42, 45-47, 52, 64, 103, 112, 114, 116-121, 135, 137, 140-142, 147, and 159 is any amino acid residue"

<400> 11

Ala Asp Arg Glu Arg Ser Ile Xaa Asp Phe Cys Leu Val Ser Lys Val 1 5 10 15

Xaa Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Trp Trp Tyr Asn Val Thr 20 25 30

Asp Gly Ser Cys Gln Leu Phe Xaa Tyr Xaa Gly Cys Xaa Xaa Ser 35 40 45

Asn Asn Tyr Xaa Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Xaa 50 55 60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp 70 75 80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser 85 90 95

Ser Asp Met Phe Asn Tyr Xaa Glu Tyr Cys Thr Ala Asn Ala Val Xaa 100 105 110

Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Trp Tyr Phe Asp Val Glu Arg 115 120 125

Asn Ser Cys Asn Asn Phe Xaa Tyr Xaa Gly Cys Xaa Xaa Xaa Lys Asn 130 135 140

Ser Tyr Xaa Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Xaa Gln 145 150 155 160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly 165 170 175

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<210> 12
<211> 393
<212> DNA
<213> Homo sapien
<220>
<221> misc_feature
<222> 390..391
<223> /note= "residue 361 is any nucleic acid"
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<221> misc_feature
<222> 390..391
<223> /note= "residue 367 is any nucleic acid"
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<221> misc_feature
<222> 384..385
<223> /note= "residue 384 is any nucleic acid"
<220>
<221> misc_feature
<222> 367..368
<223> /note= "residue 390 is any nucleic acid"
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accgagaacg cagcatccac gacttctgcc tggtgtcgaa ggtggtgggc agattccggg
                                                                       120
cctccatgcc taggtggtgg tacaatgtca ctgacggatc ctgccaqctg tttgtgtatg
                                                                       180
ggggctgtga cggaaacagc aataattacc tgaccaagga ggagtgcctc aagaaatgtg
                                                                       240
ccactgtcac agagaatgcc acgggtgacc tggccaccag caggaatgca gcggattcct
                                                                       300
ctgtcccaag tgctcccaga aggcaggatt cttgaagacc acttcagcga tatgtttcaa
                                                                       360
ntattgnaag aataattgca ccgncaacgn att
                                                                       393
<210> 13
<211> 130
<212> PRT
<213> Homo sapien
<220>
<221> Region
<222> 1..18
<223> /label= signal peptide
<220>
<221> Peptide
<222> 111..130
<223> /note= "Xaa at positions 111, 120, 122, 128, and 130 represents a
nonsense or stop codon"
<400> 13
Pro Gly Arg Phe Ser Pro Gly Trp Asp Arg Cys Ser Ser Leu Gly Ser
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Trp Pro Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser

			20					25					30			
Lys	Val	Val 35	Gly	Arg	Glu	Arg	Ala 40	Ser	Met	Pro	Arg	Trp 45	Trp	Tyr	Asn	
Val	Thr 50	Asp	Gly	Ser	Cys	Gln 55	Leu	Phe	Val	Tyr	Gly 60	Gly	Суѕ	Asp	Gly	
Asn 65	Ser	Asn	Asn	Tyr	Leu 70	Thr	Lys	Glu	Glu	Cys 75	Leu	Lys	Lys	Cys	Ala 80	
Thr	Val	Thr	Glu	Asn 85	Ala	Thr	Gly	Asp	Leu 90	Ala	Thr	Ser	Arg	Asn 95	Ala	
Ala	Asp	Ser	Ser 100	Val	Pro	Ser	Ala	Pro 105	Arg	Arg	Gln	Asp	Ser 110	Xaa	Arg	
Pro	Leu	Gln 115	Arg	Tyr	Val	Ser	Xaa 120	Ile	Xaa	Arg	Ile	Ile 125	Ala	Pro	Xaa	
Thr	Xaa 130															
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<pre><220> <221> misc_feature <222> 425510 <223> /note= "n at positions 425, 482, and 510 is any nucleic acid"</pre>																
<400> 14 gcaataatta cctgaccaag gaggagtgcc tcaagaaatg tgccactgtc acagagaatg 60										60						
ccad	cgggt	ga d	cctg	gccad	cc aç	gcago	gaato	g ca	gegga	attc	ctct	gtco	ca a	agtgo	ctccca	120
gaaq	ggcag	gga t	ttct	gaaga	ac ca	actco	cagco	g ata	atgtt	caa	ctat	gaag	gaa t	acto	gcaccg	180
ccaacgcagt cactgggcct tgccgtgcat ccttcccacg ctggtacttt gacgtggaga 24											240					
ggaa	actco	ctg d	caata	actt	c at	ctat	ggag	g gct	gccg	gggg	caat	caaga	ac a	agcta	accgct	300
ctga	aggag	ggc (ctgca	atgct	c c	gctgo	cttco	gc gc	cagca	agga	gaat	cct	ccc (ctgc	ccttg	360
gct	caaaq	ggt (ggtg	gttct	g go	cggg	ggct	g tti	cgt	gatg	gtgt	tgat	.cc 1	ttt	cctggg	420
gago	entco	cat q	ggtc	tact	g at	tcc	gggt	g gca	aagga	agga	acca	aggag	gcg t	gcc	ctgcgg	480
ance	gtctç	gga q	gctt	cggaq	ga to	gacaa	agggr	n t								511
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<221> peptide
<222> 1..169
<223> /note= "Xaa at positions 2, 23, 132, 160, and 167 represent a nonsense or stop codon"

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Gln Xaa Leu Pro Asp Gln Gly Gly Val Pro Gln Glu Met Cys His Cys
His Arg Glu Cys His Gly Xaa Pro Gly His Gln Gln Glu Cys Ser Gly
Phe Leu Cys Pro Lys Ser Pro Arg Arg Gln Asp Ser Glu Asp His Ser
Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr
Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg
Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn
Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln
Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Leu Ala Gly
                            120
Ala Val Ser Xaa Trp Cys Xaa Ser Phe Ser Trp Gly Ala Ser Met Val
Leu Leu Ile Pro Gly Gly Lys Glu Glu Pro Gly Ala Cys Pro Ala Xaa
Arg Leu Glu Leu Arg Arg Xaa Gln Gly
                165
<210> 16
<211> 431
<212> DNA
<213> Homo sapien
<220>
<221> misc feature
<222> 1..4\overline{3}0
<223> /note= "n at positions 3, 11, 12, 17, 51 and 429 represent any nucleic
acid"
<400> 16
gengegegtt nntegentge tgggateget getgeacete tetggggteg nggeggeega
                                                                      60
ccgagaacgc agcatccacg acttctgcct ggtgtcgaag gtggtgggca gatgccgggc
                                                                      120
ctccatqcct aggtggtggt acaatgtcac tgacggatcc tgccagctgt ttgtgtatgg
                                                                      180
gggctgtgac ggaaacagca ataattacct gaccaaggag gagtgcctca agaaatgtgc
                                                                      240
cactgtcaca gagaatgcca cgggtgacct ggccaccagc aggaatgcag cggattcctc
                                                                      300
tgtcccaagt gctcccagaa ggcaggattc ttgaagacca cttcagcgat atgttcaact
                                                                      360
atgaagaata ctggcaccgc caacgcattc actgggcctg cgtgcatcct tcccacgctg
                                                                      420
gtactttgnc g
                                                                      431
<210> 17
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<400> 15

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<211> 424
<212> DNA
<213> Homo sapien
<220>
<221> misc feature
\langle 222 \rangle 1...4\overline{2}4
<223> /note= "n at positions 6, 310 and 408 represent any nucleic acid"
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tgggantcgc tgctcctctc tggggtcctg gcggccgacc gagaacgcag catccacgac
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ttctgcctgg tgtcgaaggt ggtgggcaga tgccgggcct ccatgcctag gtggtggtac
                                                                        120
aatgtcactg acggatcctg ccagctgttt gtgtatgggg gctgtgacgg aaacagcaat
                                                                        180
aattacctga ccaaggagga gtgcctcaag aaatgtgcca ctgtcacaga gaatgccacg
                                                                        240
ggtgacctgg ccaccagcag gaatgcagcg gattcctctg tcccaagtgc tcccagaagg
                                                                        300
caggattctn gaagaccact ccagcgatat gttcaactat gaagaatact gcaccgccaa
                                                                        360
cgcagtcact gggccttgcg tggaatcctt tcccacgctg gnaatttnga cgttgagaag
                                                                        420
gaac
                                                                        424
<210> 18
<211> 57
<212> PRT
<213> Unknown
<220>
<221>
<222>
<223> /note= "Tissue factor pathway inhibitor precursor 1"
His Ser Phe Cys Ala Phe Lys Ala Asp Asp Gly Pro Cys Lys Ala Ile
Met Lys Arg Phe Phe Phe Asn Ile Phe Thr Arg Gln Cys Glu Glu Phe
Ile Tyr Gly Gly Cys Glu Gly Asn Gln Asn Arg Phe Glu Ser Leu Glu
Glu Cys Lys Lys Met Cys Thr Arg Asp
<210> 19
<211> 57
<212> PRT
<213> Unknown
<220>
<223> /note= "Tissue factor pathway inhibitor precursor 1"
<400> 19
Pro Asp Phe Cys Phe Leu Glu Glu Asp Pro Gly Ile Cys Arg Gly Tyr
Ile Thr Arg Tyr Phe Tyr Asn Asn Gln Thr Lys Gln Cys Glu Arg Phe
```

```
Lys Tyr Gly Gly Cys Leu Gly Asn Met Asn Asn Phe Glu Thr Leu Glu
Glu Cys Lys Asn Ile Cys Glu Asp Gly
<210> 20
<211> 57
<212> PRT
<213> Unknown
<220>
<223> /note= "Tissue factor pathway inhibitor precursor"
<400> 20
Pro Ser Trp Cys Leu Thr Pro Ala Asp Arg Gly Leu Cys Arg Ala Asn
Glu Asn Arg Phe Tyr Tyr Asn Ser Val Ile Gly Lys Cys Arg Pro Phe
Lys Tyr Ser Gly Cys Gly Gly Asn Glu Asn Asn Phe Thr Ser Lys Gln
Glu Cys Leu Arg Ala Cys Lys Lys Gly
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<210> 21
<211> 57
<212> PRT
<213> Unknown
<220>
<223> /note= "Tissue factor pathway inhibitor precursor 2"
Ala Glu Ile Cys Leu Leu Pro Leu Asp Tyr Gly Pro Cys Arg Ala Leu
Leu Leu Arg Tyr Tyr Tyr Arg Tyr Arg Thr Gln Ser Cys Arg Gln Phe 20 25
Leu Tyr Gly Gly Cys Glu Gly Asn Ala Asn Asn Phe Tyr Thr Trp Glu
Ala Cys Asp Asp Ala Cys Trp Arg Ile
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<210> 22
<211> 57
<212> PRT
<213> Unknown
<223> /note= "Tissue factor pathway inhibitor precursor 2"
<400> 22
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Val Thr Arg Tyr Tyr Phe Asn Pro Arg Tyr Arg Thr Cys Asp Ala Phe
```

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Thr Tyr Thr Gly Cys Gly Asn Asn Asn Asn Phe Val Ser Arg Glu
Asp Ser Lys Arg Ala Cys Ala Lys Ala
<210> 23
<211> 57
<212> PRT
<213> Unknown
<220>
<223> /note= "Amyloid Precursor Protein homologue"
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Lys Ala Val Cys Ser Gln Glu Ala Met Thr Gly Pro Cys Arg Ala Val
                                    10
Met Pro Arg Thr Thr Phe Asp Leu Ser Lys Gly Lys Cys Val Arg Phe
Ile Thr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Glu Ser Glu Asp
Tyr Cys Met Ala Val Cys Lys Ala Met
<210> 24
<211> 58
<212> PRT
<213> Unknown
<220>
<223> /note= "Aprotinin"
<400> 24
Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Lys Ala
Arg Ile Ile Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr
Phe Val Tyr Gly Gly Cys Arg Ala Lys Arg Asn Asn Phe Lys Ser Ala
Glu Asp Cys Met Arg Thr Cys Gly Gly Ala
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<210> 25
<211> 51
<212> PRT
<213> Unknown
<223> /note= "Inter alpha-trypsin inhibitior precursor"
<400> 25
Cys Gln Leu Gly Tyr Ser Ala Gly Pro Cys Met Gly Met Thr Ser Arg
Tyr Phe Tyr Asn Gly Thr Ser Met Ala Cys Glu Thr Phe Gln Tyr Gly
```

25

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Gly Cys Met Gly Asn Gly Asn Asn Phe Val Thr Glu Lys Glu Cys Leu
Gln Thr Cys
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<213> Unknown
<220>
<223> /note= "Inter alpha-trypsin inhibitor precursor"
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Val Ala Ala Cys Asn Leu Pro Ile Val Arg Gly Pro Cys Arg Ala Phe
Ile Gln Leu Trp Ala Phe Asp Ala Val Lys Gly Lys Cys Val Leu Phe
Pro Tyr Gly Gly Cys Gln Gly Asn Gly Asn Lys Phe Tyr Ser Glu Lys
Glu Cys Arg Glu Tyr Cys Gly Val Pro
<210> 27
<211> 57
<212> PRT
<213> Unknown
<220>
<223> /note= "Amyloid precursor protein"
<400> 27
Glu Val Cys Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met
Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe
Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu
Tyr Cys Met Ala Val Cys Gly Ser Ala
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<210> 28
<211> 51
<212> PRT
<213> Unknown
<220>
<223> /note= "Collagen alpha-3 (VI) precursor"
<400> 28
Cys Lys Leu Pro Lys Asp Glu Gly Thr Cys Arg Asp Phe Ile Leu Lys
Trp Tyr Tyr Asp Pro Asn Thr Lys Ser Cys Ala Arg Phe Trp Tyr Gly
```

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Gly Cys Gly Gly Asn Glu Asn Lys Phe Gly Ser Gln Lys Glu Cys Glu
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Lys Val Cys
    50
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<213> Unknown
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Pro Asn Val Cys Ala Phe Pro Met Glu Lys Gly Pro Cys Gln Thr Tyr
Met Thr Arg Trp Phe Phe Asn Phe Glu Thr Gly Glu Cys Glu Leu Phe
Ala Tyr Gly Gly Cys Gly Gly Asn Ser Asn Asn Phe Leu Arg Lys Glu
Lys Cys Glu Lys Phe Cys Lys Phe Thr
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<212> DNA
<213> S. cerevisiae
<400> 30
gccaagcttg gataaaagat atgaagaata ctgcaccgcc aacgca
                                                                       46
<210> 31
<211> 35
<212> DNA
<213> S. cerevisiae
                                                                       35
ggggatcctc actgctggcg gaagcagcgg agcat
<210> 32
<211> 206
<212> DNA
<213> Homo sapien
<220>
<223> /note= "cDNA of human Bikunin protein fragment"
<400> 32
ccaagcttgg ataaaagata tgaagaatac tgcaccgcca acgcagtcac tgggccttgc
                                                                       60
cgtgcatcct tcccacgctg gtactttgac gtggagagga actcctgcaa taacttcatc
tatggagget gccggggcaa taagaacage taccgetetg aggaggeetg catgeteege
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                                                                      206
tgcttccgcc agcagtgagg atcccc
<210> 33
<211> 28
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<210×	41			

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<213> Homo sapien
<400> 41
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<210> 42
<211> 105
<212> DNA
<213> Homo sapien
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                                                                       60
                                                                      105
ccttgccgtg catccttccc acgctggtac tttgacgtgg agagg
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<211> 129
<212> DNA
<213> Homo sapien
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cttattgccc cggcagcctc catagatgaa gttattgcag gagttcctct ccacgtcaaa
                                                                      120
                                                                      129
gtaccagcg
<210> 44
<211> 207
<212> DNA
<213> Homo sapien
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ccttgccgtg catccttccc acgctggtac tttgacgtgg agaggaactc ctgcaataac
ttcatctatg gaggctgccg gggcaataag aacagctacc gctctgagga ggcctgcatg
                                                                      180
                                                                      207
ctccgctgct tccgccagta gggatcc
<210> 45
<211> 248
<212> PRT
<213> Homo sapien
<220>
<221> Region
<222> 1..18
<223> /label= signal peptide
<400> 45
Met Leu Arg Ala Glu Ala Asp Gly Val Ser Arg Leu Leu Gly Ser Leu
Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg Ser Ile His Asp
Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg Ala Ser Met Pro
```

i.:

Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr 50 60

Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys 65 70 75 80

Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala 85 90 95

Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg 100 105 110

Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr 115 120 125

Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg 130 135 140

Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly 145 150 155 160

Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met 165 170 175

Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu Pro Leu Gly Ser 180 185 190

Lys Val Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe $195 \hspace{1.5cm} 200 \hspace{1.5cm} 205 \hspace{1.5cm}$

Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln 210 215 220

Glu Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp Asp Lys Glu Gln 225 230 235 240

Leu Val Lys Asn Thr Tyr Val Leu

<210> 46

<211> 213

<212> PRT

<213> Homo sapien

<400> 46

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val 1 5 10 15

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr 20 25 30

Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser 35 40 45

Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val 50 60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp 65 70 75 80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser 85 90 95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr 100 105 110 110 110 110 105 110 110

Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn

Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly 165 170 175

Leu Phe Val Met Val Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr 180 185 190

Leu Ile Arg Val Ala Arg Arg Asn Glu Glu Arg Ala Leu Arg Thr Val 195 200 205

Trp Ser Phe Gly Asp 210

<210> 47

<211> 240

<212> PRT

<213> Homo sapien

<220>

<221> Region

<222> 1..18

<223> /label= signal peptide

<400> 47

Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu 1 5 10 15

Leu Gly Ser Leu Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg 20 25 30

Ser Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg 35 40 45

Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln 50 60

Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr 65 70 75 80

Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser 100 105 110

Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn 115 120 125

Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala 130 135 140

Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn

Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu 165 170 175

Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu 180 185 190

Pro Leu Gly Ser Lys Val Val Leu Ala Gly Leu Phe Val Met Val $195 \hspace{1.5cm} 200 \hspace{1.5cm} 205 \hspace{1.5cm}$

Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala 210 215 220

Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val Trp Ser Phe Gly Asp 225 230 235 240

<210> 48

<211> 225

<212> PRT

<213> Homo sapiens

<400> 48

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val 1 5 10 15

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr $20 \\ \hspace{1.5cm} 25 \\ \hspace{1.5cm} 30 \\ \hspace{1.5cm}$

Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser 35 40 45

Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val 50 55 60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp 65 70 75 80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser 85 90 95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110$

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg 115 120 125

Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn 130 135 140

Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln 150 155 160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Val Leu Ala Gly
165 170 175

Leu Phe Val Met Val Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr 180 185 190

Leu Ile Arg Val Ala Arg Arg Asn Glu Glu Arg Ala Leu Arg Thr Val 195 200 205

Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu Val Lys Asn Thr Tyr Val

210 215 220

Leu 225

<210> 49

<211> 252

<212> PRT

<213> Homo sapien

<220>

<221> Region

<222> 1..18

<223> /label= signal peptide

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Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu 1 5 10 15

Leu Gly Ser Leu Leu Leu Ser Gly Val Leu Ala Ala Asp Arg Glu Arg 20 25 30

Ser Ile His Asp Phe Cys Leu Val Ser Lys Val Val Gly Arg Cys Arg 35 40 45

Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln 50 60

Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr 65 70 75 80

Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr 85 90 95

Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser 100 105 110

Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn 115 120 125

Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala 130 135 140

Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn 145 150 155 160

Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu 165 170 175

Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Leu 180 185 190

Pro Leu Gly Ser Lys Val Val Leu Ala Gly Leu Phe Val Met Val 195 200 205

Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala 210 215 220

Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp 225 230 235 240

Asp Lys Glu Gln Leu Val Lys Asn Thr Tyr Val Leu 245 250

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<211> 146
<212> PRT
<213> Homo sapien
<220>
<223> /note= "Human Bikunin protein fragment"
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Trp Trp Tyr Asn Val Thr Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly
Gly Cys Asp Gly Asn Ser Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu
Lys Lys Cys Ala Thr Val Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr
Ser Arg Asn Ala Ala Asp Ser Ser Val Pro Ser Ala Pro Arg Arg Gln
Asp Ser Glu Asp His Ser Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys
Thr Ala Asn Ala Val Thr Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp
Tyr Phe Asp Val Glu Arg Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly
Cys Arg Gly Asn Lys Asn Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu
                        135
Arg Cys
145
<210> 51
<211> 170
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<213> Homo sapien
<220>
<223> /note= "Human Bikunin protein fragment"
<400> 51
Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr 20 25 30
Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser
Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val 50 60
Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp
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75

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser 85 90 95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr 100 105 110

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg 115 120 125

Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn 130 135 140

Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln 145 150 155 160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys 165 170

<210> 52

<211> 170

<212> PRT

<213> Homo sapien

<220>

<223> /note= "Human Bikunin protein fragment"

<400> 52

Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val 1 5 10 15

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr 20 25 30

Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser 35 40 45

Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val 50 55 60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp 65 70 75 80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser 85 90 95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr 100 105 110

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg 115 120 125

Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn 130 135 140

Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln 145 150 155 160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys 165 170

<210> 53

<211> 27

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<213> Homo sapien
<220>
<223> /note= "Signal peptide of Human Bikunin protein"
<400> 53
Met Ala Gln Leu Cys Gly Leu Arg Arg Ser Arg Ala Phe Leu Ala Leu
Leu Gly Ser Leu Leu Ser Gly Val Leu Ala
<210> 54
<211> 23
<212> PRT
<213> Homo sapien
<220>
<223> Human Bikunin protein fragment
Met Leu Arg Ala Glu Ala Asp Gly Asn Ser Arg Leu Leu Gly Ser Leu
Leu Leu Ser Gly Val Leu Ala
<210> 55
<211> 102
<212> DNA
<213> Artificial sequence
<220>
<223> /note= "Oligomer for preparing expression construct"
60
                                                                 102
tgtagagctt cttttccaag atggtacttt gatgttgaaa ga
<210> 56
<211> 129
<212> DNA
<213> Artificial sequence
<223> Oligomer for preparing expression construct
<400> 56
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                                                                  60
tttattacct ctacaaccac cgtaaataaa attattacaa gaatttcttt caacatcaaa
                                                                 120
gtaccatct
                                                                 129
<210> 57
<211> 108
<212> DNA
<213> Artificial sequence
<223> /note= "Oligomer for preparing expression construct"
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gaaggggtaa gcttggataa aagaaattac gaagaatact gtactgctaa tgctgttact
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ggtccatgta gagcttcttt tccaagatgg tactttgatg ttgaaaga
                                                                      108
<210> 58
<211> 117
<212> DNA
<213> Artificial sequence
<220>
<223> /note= "Oligomer for preparing expression construct"
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                                                                       60
gctgttactg gtccatgtag agcttctttt ccaagatggt actttgatgt tgaaaga
                                                                      117
<210> 59
<211> 20
<212> DNA
<213> Homo sapiens
<400> 59
cacctgatcg cgaagacccc
                                                                       20
<210> 60
<211> 23
<212> DNA
<213> Homo sapiens
<400> 60
                                                                       23
ctggcggaag cagcggagca tgc
<210> 61
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<212> DNA
<213> Artificial sequence
<220>
<223> /note= "Oligomer for preparing Bikunin expression construct"
<400> 61
                                                                       45
cgcgtctcgg ctgacctggc cctgcagatg gcgcacgtgt gcggg
<210> 62
<211> 60
<212> DNA
<213> Artificial sequence
<223> /note= "Oligomer for preparing Bikunin construct"
<400> 62
ctgccccttg gctcaaagta ggaagatctt cccccgggg gggtggttct ggcggggctg
                                                                       60
<210> 63
<211> 14
<212> PRT
<213> Homo sapien
<220>
<223> /note= "Human Bikunin protein fragment"
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<400> 63
Leu Arg Cys Phe Arg Gln Gln Glu Asn Pro Pro Pro Leu Gly
<210> 64
<211> 20
<212> PRT
<213> Homo sapien
<223> /note= "Human Bikunin protein fragment"
<400> 64
Ala Asp Arg Glu Arg Ser Ile His Asp Phe Cys Leu Val Ser Lys Val
Val Gly Arg Cys
        20
<210> 65
<211> 20
<212> PRT
<213> Homo sapien
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<223> /note= "Human Bikunin protein fragment"
<400> 65
Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr Gly Pro Cys
Arg Ala Ser Phe
<210> 66
<211> 10
<212> PRT
<213> Homo sapien
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<223> /note= "Human Bikunin protein fragment"
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Pro Tyr Val Asp Gly Ser Gln Phe Tyr Gly
<210> 67
<211> 55
<212> PRT
<213> Homo sapien
<223> /note= "Human Bikunin protein fragment"
<400> 67
Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe Leu
                                    10
Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln Glu
Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu
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35 40 45

Val Lys Asn Thr Tyr Val Leu 50 55

<210> 68

<211> 43

<212> PRT

<213> Homo sapien

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<223> /note= "Human Bikunin protein fragment"

<400> 68

Val Val Leu Ala Gly Leu Phe Val Met Val Leu Ile Leu Phe Leu 1 5 10 15

Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Glu 20 25 30

Arg Ala Leu Arg Thr Val Trp Ser Phe Gly Asp 35

<210> 69

<211> 55

<212> PRT

<213> Homo sapien

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<223> /note= "Human Bikunin protein fragment"

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Gly Ala Ser Met Val Tyr Leu Ile Arg Val Ala Arg Arg Asn Gln Glu 20 25 30

Arg Ala Leu Arg Thr Val Trp Ser Ser Gly Asp Asp Lys Glu Gln Leu 35 40 45

Val Lys Asn Thr Tyr Val Leu 50 55

<210> 70

<211> 213

<212> PRT

<213> Homo sapien

<220>

<223> /note= "Human Bikunin protein fragment"

<400> 70

Val Gly Arg Cys Arg Ala Ser Met Pro Arg Trp Trp Tyr Asn Val Thr 20 25 30

Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser 35 40 45

Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val

50 55 60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp 65 70 75 80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser 85 90 95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr 100 105 110

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg 115 120 125

Asn Ser Cys Asn Asn Phe Ile Tyr Gly Gly Cys Arg Gly Asn Lys Asn 130 135 140

Ser Tyr Arg Ser Glu Glu Ala Cys Met Leu Arg Cys Phe Arg Gln Gln 145 150 155 160

Glu Asn Pro Pro Leu Pro Leu Gly Ser Lys Val Val Leu Ala Gly
165 170 175

Leu Phe Val Met Val Leu Ile Leu Phe Leu Gly Ala Ser Met Val Tyr 180 185 190

Leu Ile Arg Val Ala Arg Arg Asn Gln Glu Arg Ala Leu Arg Thr Val 195 200 205

Trp Ser Phe Gly Asp 210

<210> 71

<211> 225

<212> PRT

<213> Homo sapien

<220>

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Asp Gly Ser Cys Gln Leu Phe Val Tyr Gly Gly Cys Asp Gly Asn Ser 35 40 45

Asn Asn Tyr Leu Thr Lys Glu Glu Cys Leu Lys Lys Cys Ala Thr Val
50 55 60

Thr Glu Asn Ala Thr Gly Asp Leu Ala Thr Ser Arg Asn Ala Ala Asp 65 70 75 80

Ser Ser Val Pro Ser Ala Pro Arg Arg Gln Asp Ser Glu Asp His Ser 85 90 95

Ser Asp Met Phe Asn Tyr Glu Glu Tyr Cys Thr Ala Asn Ala Val Thr 100 105 110

Gly Pro Cys Arg Ala Ser Phe Pro Arg Trp Tyr Phe Asp Val Glu Arg

 Asn
 Ser 130
 Cys
 Asn
 Asn
 Phe
 Ile
 Tyr
 Gly
 Gly
 Cys
 Arg
 Gly
 Asn
 Lys
 Asn

 Ser 130
 Tyr
 Arg
 Ser
 Glu
 Ala
 Cys
 Met
 Leu
 Arg
 Cys
 Phe
 Arg
 Gln
 Gln